

WHAT IS CLAIMED IS:

1. A data retrieval method comprising:

storing a plurality of information data items in  
a first memory device, each of the information data  
5 items including one or more elements, each of the  
elements including a first element name and a first  
character string;

storing a plurality of first data items in  
a second memory device, each of the first data items  
10 including a second element name which is included in  
one of the elements and a label corresponding to one of  
categories to which a second character string which is  
included in the one of the elements belongs, the label  
being one of labels which correspond to the categories  
15 respectively, the second element name being identical  
to the first element name, the second character string  
being identical to the first character string;

inputting a search request including a keyword and  
a first label which is one of the labels;

20 searching one of the first data items which  
includes the first label, to obtain a third element  
name which is the second element name included in the  
one of the first data items;

searching one of the information data items which  
25 includes a first element of the elements which includes  
the third element name and a second element of the  
elements which includes the first character string

including the keyword;

outputting the first character string which is included in the first element.

2. A data retrieval method comprising:

5 storing a plurality of information data items in a first memory device, each of the information data items including one or more elements, each of the elements including a first element name and a first character string;

10 storing a plurality of first data items in a second memory device, each of the first data items including a second element name which is included in one of the elements and a label corresponding to one of categories to which a second character string which is  
15 included in the one of the elements belongs, the label being one of labels which correspond to the categories respectively, the second element name being identical to the first element name, the second character string being identical to the first character string;

20 storing a plurality of third data items in a third memory device, each of the third data items including one of the labels and a word representing one of the categories corresponding to the one of the label;

inputting a search request expressed in natural-  
25 language and including a plurality of words;

searching one of the third data items which includes the one of the words included in the search

request, to obtain a first label which is one of the labels and is included in the one of the third data items;

5 extracting a keyword corresponding to another of the words, from the search request;

searching one of the first data items which includes the first label, to obtain a third element name which is the second element name included in the one of the first data items;

10 searching one of the information data items which includes a first element of the elements which includes the third element name and a second element of the elements which includes the first character string including the keyword;

15 outputting the first character string which is included in the first element.

3. A method according to claim 1, which includes storing a plurality of character string patterns and the labels, each of the character string pattern  
20 corresponding to one of the categories,

comparing the first character string with the character string patterns, to obtain the label which corresponds to one of the categories to which the first character string belongs.

25 4. A method according to claim 2, which includes storing a plurality of character string patterns and the labels, each of the character string pattern

corresponding to one of the categories,

comparing the first character string with the character string patterns, to obtain the label which corresponds to one of the categories to which the first character string belongs.

5           5. A data retrieval apparatus comprising:

          a first storing unit configured to store a plurality of information data items, each of the information data items including one or more elements, each of the elements including a first element name and a first character string;

          a second storing unit configured to store a plurality of first data items, each of the first data items including a second element name which is included in one of the elements and a label corresponding to one of categories to which a second character string which is included in the one of the elements belongs, the label being one of labels which correspond to the categories respectively, the second element name being identical to the first element name, the second character string being identical to the first character string;

          an input unit configured to input a search request including a keyword and a first label which is one of the labels;

          a first search unit configured to search one of the first data items which includes the first label, to

obtain a third element name which is the second element name included in the one of the first data items;

5 a second search unit configured to search one of the information data items which includes a first element of the elements which includes the third element name and a second element of the elements which includes the first character string including the keyword;

10 a output unit configured to output the first character string which is included in the first element.

6. A data retrieval apparatus comprising:

15 a first storing unit configured to store a plurality of information data items, each of the information data items including one or more elements, each of the elements including a first element name and a first character string;

20 a second storing unit configured to store a plurality of first data items, each of the first data items including a second element name which is included in one of the elements and a label corresponding to one of categories to which a second character string which is included in the one of the elements belongs, the label being one of labels which correspond to the categories respectively, the second element name being  
25 identical to the first element name, the second character string being identical to the first character

string;

          a third storing unit configured to store  
a plurality of third data items, each of the third  
data items including one of the labels and a word  
5       representing one of the categories corresponding to the  
one of the label;

          an input unit configured to input a search request  
expressed in natural-language and including a plurality  
of words;

10       a first search unit configured to search one of  
the third data items which includes the one of the  
words included in the search request, to obtain a first  
label which is one of the labels and is included in the  
one of the third data items;

15       an extracting unit configured to extract a keyword  
corresponding to another of the words, from the search  
request;

          a second search unit configured to search one of  
the first data items which includes the first label, to  
20       obtain a third element name which is the second element  
name included in the one of the first data items;

          a third search unit configured to search one of  
the information data items which includes a first  
element of the elements which includes the third  
25       element name and a second element of the elements which  
includes the first character string including the  
keyword;

an output unit configured to output the first character string which is included in the first element.

7. An apparatus according to claim 5, further comprising:

a fourth storing unit configured to store a plurality of character string patterns and the labels, each of the character string pattern corresponding to one of the categories,

10 a comparing unit configure to compare the first character string with the character string patterns, to obtain the label which corresponds to one of the categories to which the first character string belongs.

8. An apparatus according to claim 6, further comprising:

a fourth storing unit configured to store a plurality of character string patterns and the labels, each of the character string pattern corresponding to one of the categories;

20 a comparing unit configured to compare the first character string with the character string patterns, to obtain the label which corresponds to one of the categories to which the first character string belongs.

9. A data retrieval program stored on a computer readable medium, the computer program comprising:

first program instruction means for instructing a computer processor to store a plurality of information

data items in a first memory device, each of the information data items including one or more elements, each of the elements including a first element name and a first character string;

5           second program instruction means for instructing a computer processor to store a plurality of first data items in a second memory device, each of the first data items including a second element name which is included in one of the elements and a label corresponding to one  
10           of categories to which a second character string which is included in the one of the elements belongs, the label being one of labels which correspond to the categories respectively, the second element name being identical to the first element name, the second  
15           character string being identical to the first character string;

          third program instruction means for instructing a computer processor to input a search request including a keyword and a first label which is one of the labels;

20           fourth program instruction means for instructing a computer processor to search one of the first data items which includes the first label, to obtain a third element name which is the second element name included in the one of the first data items;

25           fifth program instruction means for instructing a computer processor to search one of the information data items which includes a first element of the



elements which includes the third element name and a second element of the elements which includes the first character string including the keyword;

sixth program instruction means for instructing  
5 a computer processor to output the first character string which is included in the first element.

10. A data retrieval program stored on a computer readable medium, the computer program comprising:

first program instruction means for instructing a  
10 computer processor to store a plurality of information data items in a first memory device, each of the information data items including one or more elements, each of the elements including a first element name and a first character string;

15 second program instruction means for instructing a computer processor to store a plurality of first data items in a second memory device, each of the first data items including a second element name which is included in one of the elements and a label corresponding to one  
20 of categories to which a second character string which is included in the one of the elements belongs, the label being one of labels which correspond to the categories respectively, the second element name being identical to the first element name, the second  
25 character string being identical to the first character string;

third program instruction means for instructing

a computer processor to storing a plurality of third data items in a third memory device, each of the third data items including one of the labels and a word representing one of the categories corresponding to the one of the label;

fourth program instruction means for instructing a computer processor to input a search request expressed in natural-language and including a plurality of words;

fifth program instruction means for instructing a computer processor to search one of the third data items which includes the one of the words included in the search request, to obtain a first label which is one of the labels and is included in the one of the third data items;

sixth program instruction means for instructing a computer processor to extracting a keyword corresponding to another of the words, from the search request;

seventh program instruction means for instructing a computer processor to search one of the first data items which includes the first label, to obtain a third element name which is the second element name included in the one of the first data items;

eighth program instruction means for instructing a computer processor to search one of the information data items which includes a first element of the elements which includes the third element name and a second element of the elements which includes the

first character string including the keyword;

ninth program instruction means for instructing  
a computer processor to outputting the first character  
string which is included in the first element.